CONTENTS OF VOLUME I.

PAGE

A Geometrical Proof of the Three-Ammeter Method of Measuring Power. *Frederick Bedell and Albert C. Crehore* 59

A Study of the Polarization upon a Thin Metal Partition in a Voltameter. *John Daniel* . . . . . I. 241; II. 351

Alternate-current Condensers and Dielectric Hysteresis. *Frederick Bedell, N. F. Ballantyne, and R. B. Williamson* 81

An Experimental Research on the Longitudinal and Torsional Elastic Fatigue. *Louis W. Austin* 401

Fatigue in the Elasticity of Stretching. *Joseph O. Thompson* 346

General Discussion of the Current Flow in Two Mutually Related Circuits containing Capacity. *Frederick Bedell and A. C. Crehore* . . . . . I. 117; II. 177

Minor Contributions, No. II.: (1) An Acoustic Pyrometer, *Fernando Sanford;* (2) Method for Determining Focal Lengths of Microscopic Lenses, *W. S. Franklin;* (3) Electric Heating in Physical Laboratory Practice, *Edward L. Nichols* 139

No. III.: (1) Some Rapid Changes of Potential, Studied by Means of a Curve-writing Voltmeter, *G. S. Moler;* (2) Irregularities in Alternate-current Curves, *Frederick Bedell, K. B. Miller, and G. F. Wagner;* (3) Note on the Infra-red Spectra of the Alkalies, *B. W. Snow* 214

No. IV.: (1) The Effect of Temperature and of Electric Driving on the Period of Tuning-forks, *J. S. Shearer;* (2) On the Continuous Spectrum of Sodium, *B. W. Snow;* (3) Note on Some Surface-tension Experiments, *Ernest F. Nichols* . . . 291

No. V.: (1) An Apparatus for Generating Oxygen and Hydrogen by Electrolysis, *E. L. Nichols and G. S. Moler;* (2) Freezing-point of Dilute Solutions — a Correction, *E. H. Loomis;* (3) The Effect of Extreme Cold on Magnetism, *Louis W. Austin* 373

No. VI.: (1) The Thompson Physical Laboratory at Williams College, *Henry Lefavour;* (2) Reaction Velocity and Boiling-point, *J. E. Trevor and F. L. Kortright;* (3) Dynamics of the Ether, *A. E. Kennelly and Reginald A. Fessenden;* (4) The Leyden Jar as a Storage Battery, *S. T. Moreland;* (5) The Times of Descent along Chords of a Circle, *James S. Stevens* 451

New Books, No. I.: *Gray:* Absolute Measurements in Electricity and Magnetism, Vol. 2. *Bedell and Crehore:* Alternating Currents. *Mottelay:* Gilbert's de Magnete. *Benjamin:* Primary Batteries. *Winkelmann:* Handbuch der Physics. Recent Text-books in Physics 66

No. II.: *Heaviside's* Electrical Papers. *Helmholtz's* Handbuch der Physiologischen Optik. *Dolbear's* Matter, Ether, and Motion. Recent Text-books in Physics 152

No. III.: Transactions of the Frankfort Congress. *Ostwald:* Lehrbuch der allegemeinen Chemie. *Hawkins and Wallis:* The Dynamo: Its Theory, Design, and Manufacture. *Palaz:* Traité de Photométrie Industrielle. *Eiloart:* A Guide to Stereochemistry. *Hopkins:* Experimental Science 230

PAGE

New Books, No. IV.: *Tesla:* Light and Other High-frequency Phenomena. Two Treatises on the Theory of Elasticity. *Mach:* The Science of Mechanics. *Jackson:* Electro-Magnetism and the Construction of Dynamos. *Taylor:* The Resistance of Ships and Screw Propulsion. *Bedell and Crehore:* Alternating Currents 305

No. V.: *McAulay:* Utility of Quaternions in Physics. *J. J. Thomson:* Recent Researches in Electricity and Magnetism. *Landolt and Börnstein:* Physikalisch Chemische Tabellen. *Byerly:* An Elementary Treatise on Fourier's Series. *Ziwet:* An Elementary Treatise on Theoretical Mechanics 387

No. VI.: *Todhunter-Pearson:* History of Elasticity. *Ferrel:* On Vision. *Martin:* Inventions, Researches, and Writings of Nikola Tesla. *Weymouth:* Drum Armatures and Commutators. 462

Notes, No. I.: Meeting of the National Academy of Sciences. The Electrical Congress at Chicago. Annual Meeting of the American Institute of Electrical Engineers . . 62

No. III.: (1) The American Association for the Advancement of Science; (2) The Electrical Congress; (3) Professor von Helmholtz's Visit to America; (4) Some Recent Appointments in Physics 224

No. IV.: John Tyndall 302

No. V.: Heinrich Hertz 383

On a Method of Photographing the Manometric Flame, with Applications to the Study of the Vowel A. *Ernest Merritt* 166

On the Condition of the Ether Surrounding a Moving Body. *William S. Franklin and Edward L. Nichols* 426

On the Electric Strength of the Solid, Liquid, and Gaseous Dielectrics. *Alexander Macfarlane and G. W. Pierce* 161

On the Freezing-points of Dilute Solutions. *E. H. Loomis* . . . . . I. 199; II. 274

Relation between the Lengths of the Yard and the Meter. *William A. Rogers* . 19

Some Measurements of the Temperature Variation in the Electrical Resistance of a Sample of Copper. *A. E. Kennelly and R. A. Fessenden* 260

Study of the Distribution of Strains by Polarized Light. *A. Marston* 127

The Critical Current Density for Copper Deposition, and the Absolute Velocity of Migration of the Copper Ions. *Samuel Sheldon and G. M. Downing* 51

The Electrical Conductivity of Copper as affected by the Surrounding Medium. *Henry S. Carhart* 321

The Infra-red Spectra of the Alkalies. *Benjamin W. Snow* . . . . . I. 28; II. 95

The Quantitative Determination of Radiant Heat by the Method of Electrical Compensation. *Knut Ångström* 365

The Transmission Spectra of Certain Substances in the Infra-red. *Ernest F. Nichols* 1

The Use of the Sectored Disc in Photometry. *Ervin S. Ferry* 338

Three Problems in Forced Vibration. *William S. Franklin* 442

PORTRAITS.

JOHN TYNDALL . . . . . Frontispiece to No. IV.

HEINRICH HERTZ . . . . . " " No. V.